IN THE CLAIMS:

Kindly cancel claims 3, 17, and 18.

Kindly consider the following amended claims:

1. (Amended) A method of isolating a rejuvenated primary mammalian cell, comprising:

a. transferring a first primary mammalian cell, the nucleus from said first primary mammalian cell or chromosomes from a first primary mammalian cell to a recipient mammalian oocyte or egg in order to generate an embryo;

b. obtaining an inner cell mass, embryonic disc and/or stem cell using said embryo;

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c. injecting said inner cell mass, embryonic disc and/or stem cell into an immune-compromised animal to form a teratoma;

d. isolating said resulting teratoma;

e. separating the different germ layers for the purpose of identifying specific cell types;

f. isolating a rejuvenated cell of the same type as the primary cell, wherein said rejuvenated cell has telomeres that are on average at least as long as those of cells from a same age control teratoma that is not generated by nuclear transfer techniques.

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4. (Amended) The method of Claim 1, wherein said telomeres are on average longer than those of cells from a same age control teratoma that is not generated by nuclear transfer techniques.

7. (Amended) The method of Claim 1, wherein said first primary cell has at least one alteration to the genome, wherein said genetic alteration comprises the transfection of at least one heterologous gene or the disruption of at least one native gene.

8. (Amended) A method of making a primary mammalian cell having the same genotype as a first mammalian cell which is of a different primary cell type, comprising:

a. transferring the nucleus from said first mammalian cell to a recipient mammalian oocyte in order to generate an embryo;

b. obtaining an inner cell mass, embryonic disc and/or stem cell using said embryo;

B6 c. injecting said inner cell mass, embryonic disc and/or stem cell into an immune compromised mammal to form a teratoma;

d. isolating said resulting teratoma;

e. separating the different germ layers for the purpose of identifying specific cell types;

f. isolating a primary cell of a different type than the first primary cell,

wherein the telomeres of said new primary cell are at least as long the telomeres of a same age control cell not generated by nuclear transfer techniques.

B7 13. (Amended) The method of Claim 11, wherein said primary cell is used to generate a tissue.

B8 21. (Amended) A method of performing compound genetic manipulations in primary mammalian cells, comprising transferring a senescent or near-senescent primary mammalian cell, the nucleus of said cell, or chromosomes from said cell, into a recipient

mammalian oocyte and generating a rejuvenated primary cell between genetic manipulations of said primary cells.

B8 22. (Amended) A method of performing compound genetic manipulations in primary mammalian cells, comprising transferring a senescent or near-senescent primary mammalian cell, the nucleus of said cell, or chromosomes from said cell, into a recipient mammalian oocyte and generating a rejuvenated primary cell between genetic manipulations of said primary cells.

B9 25. (Amended) A method of making a mammal having the same genotype as the genetically altered cell of Claim 24, comprising

a. transferring the nucleus of said cell into a recipient oocyte,

b. generating an embryo from said nucleated oocyte,

c. introducing said embryo into a recipient female of the same species, and

d. allowing said embryo or embryonic stem cell to fully develop such that said female delivers a newborn animal having the same genotype as said primary cell.

B10 29. (Amended) A method of making a re-cloned mammalian inner cell mass, blastocyst, teratoma embryo, fetus or animal containing at least two genetic modifications, comprising:

a. obtaining a primary cell from a mammal of interest,

b. making a first genetic modification to said primary mammalian cell by inserting heterologous DNA and/or deleting native DNA,

c. allowing said genetically modified primary mammalian cell to multiply to senescence or near-senescence,

d. using a first genetically modified mammalian senescent or near-senescent cell as a nuclear donor for nuclear transfer to an enucleated oocyte or an enucleated fertilized egg,

e. obtaining a cloned mammalian inner cell mass, blastocyst, teratoma, embryo, fetus or animal having said first genetic modification,

f. obtaining a cloned primary cell from said cloned mammalian inner cell mass, blastocyst, teratoma, embryo, fetus or animal,

g. making a second genetic modification to said cloned primary mammalian cell by inserting heterologous DNA and/or deleting native DNA,

B 10

h. allowing said second cloned primary mammalian cell to multiply until senescence or near senescence,

i. using a senescent or near-senescent cloned primary mammalian cell having said first and second genetic modifications as a nuclear donor for nuclear transfer to an enucleated oocyte or an enucleated fertilized egg, and

j. obtaining a re-cloned mammalian inner cell mass, blastocyst, teratoma, embryo, fetus or animal having said first and second genetic modifications.

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37. (Amended) A method of re-setting the life-span of a senescent or near-senescent primary mammalian cell, comprising transferring said primary cell, the nucleus of said cell, or chromosomes from said cell, into a recipient mammalian oocyte.

39. (Amended) The method of Claim 37 further comprising generating an embryo or embryonic stem cell from said [nucleated] oocyte containing said cell, the nucleus of said cell, or chromosomes from said cell.